

# ● PRINTER RUSH ●

(PTO ASSISTANCE)

Application : <u>09/936,664</u>	Examiner : <u>V. BATSON</u>	GAU : <u>3671</u>
From: <u>R. MITCHELL</u>	Location: <u>IDC</u> FMF FDC	Date: <u>12/9/05</u>
Tracking #: <u>EXM 09/936,664</u>		Week Date: <u>11/14/05</u>

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DEMOLITION EQUIPMENT HAVING UNIVERSAL TINES  
AND A METHOD FOR DESIGNING A UNIVERSAL TINE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to demolition equipment systems and, more particularly, to claw tines for demolition equipment.

2. Background Information

The present application refers to demolition equipment, however, this equipment is also referred to as construction equipment, scrap handling equipment and the like. The description of demolition equipment is not intended to be restrictive of the equipment being referenced. In demolition equipment, it has long been known to utilize elongated extension members, referred to herein as claw tines, in a variety of equipment units. For example, there are many different machines that have buckets mounted on their front. A variety of claw tines has been developed for attachment to the buckets to improve the operation of these equipment units. Examples of the wide variety of claw tine attachments for various buckets can be seen in U.S. Patent Nos. 5,639,205; 5,590,482; 5,564,885; 5,544,435; 5,472,308; 5,111,602; 4,382,625; 4,519,739; 4,375,345 and 4,285,628. Additionally, the Applicant's earlier invention disclosed a self-contained demolition bucket attachment using claw tines in U.S. Patent No. 4,799,852. In addition to bucket type equipment, elongated claw tines are utilized opposing each other to form a grapple. Grapples are generally used for gripping and moving the work. Within the context of the present application, grapples are distinguished from the bucket attachments in that the grapples have the tines operating against each other (i.e., opposed) as compared to operating against a bucket.

There have been a wide variety of existing claw tines for demolition equipment units. To date, there has not been sufficient consideration given to how changes in the geometry of the claw tine can effect the operation. For example, if the holding force of a given demolition

→ This application is a 371 of PCT/US00/23405 filed August 25, 2000 which claims benefit of U.S. provisional application 60/151,723 filed August 31, 1999 which claims benefit of U.S. provisional application 60/196,233 filed April 19, 2000.

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